

### **Abstract of the Disclosure**

The invention provides an installation for the production of hydrogen and/or carbon monoxide and/or a mixture of hydrogen and carbon monoxide, by separating a mixture to be processed (1) which contains at least carbon monoxide and hydrogen. Said installation comprises a production apparatus (9), for producing a feed mixture (3), a separating unit (BF), means for supplying the feed mixture to the separating unit, means for collecting hydrogen and/or carbon monoxide and/or a mixture of both products (7, 8), derived from the separating unit, means for drawing off at least one recycling gas (6) from the separating unit, means for returning said recycling gas upstream of the separating unit, for separating said gas simultaneously with the feed mixture from the production apparatus and means for modifying the rate and composition of said feed mixture, by modifying the operation of the production apparatus, according to the rate and composition of said at least one recycling gas.